

ABSTRACT OF THE DISCLOSURE

The present invention provides an active data type for use in a computer program. The active data type has an identifier and at least one algorithm associated therewith. The identifier is utilized by the computer program to identify the instance of the active data type. The algorithm is configured to be automatically executed when an attempt to access a value associated with the active data type instance is made by a routine or otherwise. When a particular routine that uses an instance of the active data type attempts to access the value associated with the active data type, the algorithm determines the value associated with the active data type before the routine obtains access to the value. The active data type may be a real, an integer, or a string, for example. The algorithm automatically determines the current value associated with the active data type instance. Preferably, the active data type has an identifier, a first algorithm and a second algorithm associated therewith. The first algorithm preferably automatically determines the current value of the instance of the active data type when a routine that utilizes the value of the active data type instance attempts to access the value. When the value of the instance of the active data type is set, the second algorithm preferably automatically post-processes the value to which the active data type instance has been set. A locking/unlocking mechanism sets the value of the active data type instance prior to the first algorithm invoking the particular routine, suspends active data type algorithm processing while the routine executes, and processes the value of the active data type instance using the second algorithm once the routine has returned in order to post-process any changes to the value of the active data type instance.